Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **Joe and Susan Philippi**
Box 175
Judith Gap, MT 59453

2. Type of action **Application To Change An Existing Water Right No. 40A 30110130**

3. Water source name: **Roberts Creek and Oka Springs**

4. Location affected by project: **The project is located in Wheatland County, Southwest of the town of Judith Gap, Montana.**

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicant proposes to change the place of use of Statement of Claim No. 40A 113162. 105 flood-irrigated acres located in the SW1/4 Section 9, T10N, R15E, will be changed to sprinkler irrigation in the S2S2 Section 5, and S2NE Section 8, T10N, R15E. The proposed place of use consists of two center pivot sprinkler systems (one full pivot and one partial pivot) with a combined irrigated area of 197.7 acres. Water will be diverted to the center pivots from an existing reservoir, which impounds water from an unnamed tributary of Roberts Creek and Oka Springs, via a pumping system.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Dept. of Environmental Quality Website – Clean Water Act Information Center
MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species
MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: **No Significant Impact.**

The source of supply for this application is Roberts Creek and Oka Springs. Montana Fish, Wildlife, and Parks', MFISH website does not list any information regarding the sources of supply as being identified as a chronically or periodically dewatered stream. There is a low likelihood that this project will have a significant impact on water quantity; demands on the hydrologic system are not expected to change. The Department's assessment of the proposed change is that the secondary flow rate from the reservoir will be 900 GPM or 2.01 CFS. Diversions for the 197.7 acres of pivot irrigation will be commensurate with the historic consumed volume, however they will be based on a new pivot efficiency of 80%. If Applicant adheres to all Department conditions of appropriation (measurement), this project will not have a significant impact on surface water quantity in Roberts Creek or Oka Springs.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: **No Significant Impact.**

This proposed project is to change the place of use of Statement of Claim No. 40A 113162. The source has not been listed as a water quality impaired or threatened stream by DEQ. There is a low likelihood that the change in place of use will have a significant impact on water quality.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: **No Significant Impact.**

This project is not anticipated to use any more groundwater than has been used historically. The reservoir associated to this project captures the entire flow of Roberts Creek and Oka Springs. A standard consumptive use analysis for the irrigated acres was conducted, the applicant will be help to these figures and a measurement condition will be applied to the Change Authorization.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: **No Significant Impact.**

The proposed project includes a change in place of use to accommodate a conversion from flood to center pivot sprinkler irrigation. The number of acres irrigated will remain largely the same, from 198.0 – 197.7 acres. The diverted volume will be reduced from 201.8 AF to 143.2 AF. The estimated consumed volume will remain the same, as will the period of appropriation and use. The diversion works are already in place; therefore, no new impacts are expected. Channel impacts, impacts to flow modifications, barriers, riparian areas, dams, or well construction are not anticipated.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species *- Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: **No Significant Impact.**

The Montana National Heritage Program lists 10 animal Species of Concern and no plant Species of Concern within Township 10 North, Range 15 East. The common names for the species include the McCown's Longspur, Long-billed Curlew, Mountain Plover, Ferruginous Hawk, Sprague's Pipit, Baird's Sparrow, Little Brown Myotis, Chestnut-collared Longspur, and the Hoary Bat. The Sauger is the only fish that is listed. The USDI Fish & Wildlife Service Website also lists the Canada Lynx as threatened and the Black Footed Ferret as an endangered species. Most of the construction associated with this change is complete, or the area that the half pivot will cover has already been farmed over; therefore, no impacts to any of these species are expected.

Wetlands *- Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No Significant Impact.**

The National Wetlands Inventory website shows Freshwater Emergent Type Wetlands through a limited portion of the Applicant's claimed places of use. No significant impacts to wetlands are expected from this change application. The wetlands will still benefit from the seepage from the reservoir, and the retiring of the historic flood irrigation acres within riparian areas should allow for increased soil moisture throughout the historic place of use.

Ponds *- For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No Significant Impact.**

This project does involve a pre-existing man made reservoir. No impact to wildlife, waterfowl, or fisheries are anticipated; the reservoir will function as it has in previous years, with the exception that all diversions will now be pumped to pivot irrigation.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No Significant Impact.**

Impacts associated with the pivot construction activities could have created a minor disturbance to portions of the places of use, but there will be no further impacts than what has already occurred. It is not anticipated that any significant impacts to geology, soil quality, stability and moisture would result from the proposed action to convert the irrigation systems. The crop under the pivot will increase ground coverage, therefore reducing soil erosion and potentially allow for an increase in soil moisture due to less soil exposure. Degradation of soil quality, alteration of soil stability, or moisture content is not expected with this project.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No Significant Impact.**

Typical construction activities associated to pump & pipeline installation can cause short-term disturbances to vegetative cover; however, there is a low likelihood of any long term or significant impact because of this project. The crop under the pivot will increase the ground coverage, therefore reducing soil erosion. It is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **No Significant Impact.**

It is unlikely air quality will be deteriorated. No impacts to air quality have been identified.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: **N/A – project not located on State or Federal Lands.**

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: **No Significant Impact.**

No additional impacts are anticipated.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: **No Significant Impact.**

No locally adopted environmental plans or goals have been identified, the project is consistent with other irrigation systems in the area.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: **No Significant Impact.**

The proposed action should have no impact to recreation or wilderness activity and is consistent with irrigation practices in the area.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: **No Significant Impact.**

No impacts to human health have been identified.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights*.

Determination: **No known impacts.**

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) Cultural uniqueness and diversity? **None**

(*b) Local and state tax base and tax revenues?* **None**

(c) Existing land uses? **Flood/ wheel-line irrigation to pivot irrigation.**

(*d) Quantity and distribution of employment?* **None**

(e) Distribution and density of population and housing? **None**

(f) Demands for government services? **None**

(g) *Industrial and commercial activity?* **None**

(h) *Utilities?* **None**

(i) *Transportation?* **None**

(j) *Safety?* **None**

(k) *Other appropriate social and economic circumstances?* **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: **Department analysis finds less return flows are expected in the riparian zone due to the conversion from wheel-line and flood to pivot-sprinkler irrigation. The Applicant proposes to divert and apply less volume with the pivot system and as such, the amount and timing of the flow regime will be modified. Secondary impacts are expected to be minor, more water will be available in the stream during periods of pivot diversion and consumptive use for the new center pivot systems as it relates to historic irrigation will not change.**

Cumulative Impacts: **More and more historic acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after conversion from flood to pivot irrigation, and a water measuring device will aid in controlling the amount of water used.**

3. *Describe any mitigation/stipulation measures:*

No mitigation or stipulation measures have been identified by the Applicant.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the application. This alternative would result in no change to the existing water rights for irrigation.

PART III. Conclusion

1. Preferred Alternative

The preferred alternative is the proposed alternative.

2 Comments and Responses

None Received.

3. ***Finding:***
*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain <u>why</u> the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

Name of person(s) responsible for preparation of EA:

Name: Michael Everett
Title: Water Resources Specialist – LRO Date: 09/11/2017